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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/683,794 | 02/15/2002 | Takenori Kohda | JP920000363US1 | 2202 |
| 877 | 7590 | 03/11/2005 | EXAMINER | |
| IBM CORPORATION, T.J. WATSON RESEARCH CENTER P.O. BOX 218 YORKTOWN HEIGHTS, NY 10598 | | | BASEHOAR, ADAM L | |
| | | ART UNIT | PAPER NUMBER | |
| | | 2178 | | |

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|--------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/683,794 | KOHDA ET AL. |
| | Examiner | Art Unit |
| | Adam L Basehoar | 2178 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 15 February 2002.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-30 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 15 February 2002 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: The Application filed on 02/15/02, which claims priority to foreign priority to Japanese application 2001-039150 filed 02/15/01.
2. Claims 1-30 are pending in the case. Claims 1, 6, 9, 12, 15, 19, 21-23, and 25-30 are independent claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claim 8 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 8 recites wherein the form generator arranges a display area near the center and arranges display areas nearer the side of said display form. These limitations are in direct conflict with independent claim 6, which states "the structure of a digital document is maintained", and thus the claims is rendered indefinite.

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 25-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 25-27 recite a program which in and of itself is not tangibly embodied. The Examiner suggests the claims be amended to embody the program on a computer readable medium.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-2, 4-7, 9-10, 12-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Vu et al (US-2002/0078091 06/20/02).

In regard to independent claim 1, Vu et al teach determining the layout of a digital document (Page 4: Paragraph 0069: “the summarizer 14 parses the target document 16 into a hierarchical document tree”) based on digital document display form historical data acquired previously (Page 2: Paragraphs 0019-0020)(Fig. 2: 19);

generating data relating to the display form of said digital document (Page 4: Paragraph 0070: "The total weights generated...by the summary generator 14."); and a user interface for displaying said digital document based on said data relating to said display form (Page 5: Paragraph 0075: "Finally, the summary....in a linear order") (Fig. 1: 21).

In regard to dependent claim 2, Vu et al teach wherein said layout engine (Page 3: Paragraph 0038) uses said historical data (Page 2: Paragraphs 0019-0020) (Fig. 2: 19) when allocating a display area for each area constituting said document (Pages 4 & 5: Paragraphs 0074-0075).

In regard to dependent claim 4, Vu et al teach preparing summaries for sentences (Page 4: Paragraph 0069: "section layer 32, paragraph layer 34, a phrase layer 36") in said digital document based on said historical data (Page 2: Paragraphs 0019-0020) (Fig. 2: 19);

wherein said summaries are arranged in accordance with said layout determined by said layout engine (Page 3: Paragraph 0038: "On the basis...for the target document"), and generates data for display (Page 5: Paragraph 0075: "Finally, the summary....in a linear order").

In regard to dependent claim 5, Vu et al teach based on said historical data (Page 2: Paragraphs 0019-0020) (Fig. 2: 19) determining which parameters are required for

summarization (Page 4: Paragraph 0069), and preparing a summary for each of the predetermined sentence elements that constitute the sentences of said digital document (Page 4: Paragraph 0074)(Fig. 4).

In regard to independent claim 6, Vu et al teach generating a display form (Fig. 1: 21) wherein display areas to be allocated to elements (Page 4: Paragraph 0069: “section layer 32, paragraph layer 34, a phrase layer 36”)(Fig. 4) constituting said document are altered in accordance with importance levels of said elements (Page 4: Paragraphs 0070-0075), while the structure of a digital document was maintained (Page 5: Paragraph 0075: “Finally, the summary.....in a linear order”); and

displaying said digital document in said generated display form (Page 5: Paragraph 0075: “Finally, the summary.....in a linear order”).

In regard to dependent claim 7, Vu et al teach allocating a small display area (i.e. ignore the feature) for an element having a low importance (Page 4: Paragraph 0074: i.e. feature weight lower than weight threshold) and a large area (i.e. flag the feature for inclusion) for an element having a high importance (Page 4: Paragraph 0074: i.e. feature weight higher than weight threshold).

In regard to independent claim 12, Vu et al teach an input function for entering a digital document to be displayed (Page 4: Paragraph 0069: “the summarizer 14 parses the target document 16 into a hierarchical document tree”); and

A display function for displaying the digital document using a predetermined display form (Page 3: Paragraph 0038) and displays a summary that was prepared based on historical data related to a display form previously used (Page 4: Paragraphs 0069-0071: i.e. based on the training data).

In regard to dependent claim 13, Vu et al teach determining which parameters are required for the preparation of said summary based on said historical data (Page 4: Paragraphs 0069-0071), and preparing said summary of said target sentence based on said parameters (Page 4: Paragraph 0074).

In regard to dependent claim 14, Vu et al teach based on said historical data (Page 4: Paragraph 0069-0071), said display function (Page 5: Paragraph 0075: “summary selector displays...a linear order”)(Fig. 1: 21) displays said summary in areas arranged for the individual elements that constitute said document (Page 4: Paragraphs 0074-0075).

In regard to independent claim 15, Vu et al teach a display function (Page 4: Paragraphs 0074-0075) for displaying the digital document using a predetermined display form (Page 3: Paragraph 0038); and

A display update function (Page 4, Paragraph 0074: “user-supplied percentage”), maintaining the structure of said digital document (Page 5: Paragraph 0075: “Finally, the summary.....in a linear order”), alters the display areas to be allocated for elements in said

digital document (Page 4, Paragraph 0074: “determines a weight threshold”), and displays said digital document (Fig. 1: 21).

In regard to dependent claim 16, Vu et al teach wherein said display function displays an image (Page 5: Paragraph 0075: “Finally, the summary.....in a linear order”) using a size that corresponds to the display area of a sentence portion in said digital document that was relevant to said image (Page 4: Paragraph 0074: i.e. displays a sentence portion when said sentence was relevant enough to have a feature weight above the weight threshold).

In regard to dependent claim 17, Vu et al teach initially said display function enlarges a display area for an element located at the head of said digital document (Page 1: Paragraph 0007: “assign greater weight....beginning of the news-story”) and reduces the display areas for succeeding elements (Page 1: Paragraph 0006: “and what features can be safely ignored”); and

reducing a summarization rate for an element located at the head of said digital document (Page 4: Paragraph 0074: i.e. weight threshold decreased for head elements (Fig. 4: 32)) and increases said summarization rate for succeeding elements (Page 4: Paragraph 0074: weight threshold increased for non-head elements (Fig. 4: 38) and when successively using the update function (Page 4: Paragraph 0074: “user-supplied percentage”) shifts rearward the range wherein a large display area was set (i.e. feature

weight of feature greater than weight threshold) and said summarization rate was reduced for the sentence element (Page 4: Paragraph 0074: feature weight threshold reduced).

In regard to dependent claim 18, Vu et al teach accepting an update request for a predetermined designated portion already being displayed (Page 4: Paragraph 0074: i.e. user-selectable percentage was changed), and enlarging a display area for an element in said designated portion (i.e. if the weight threshold was reduced and the element previously below the threshold was now above it then the display area would be enlarged), and displays a sentence in said designated portion (Page 4: Paragraph 0069: “section layer 32, paragraph layer 34, a phrase layer 36”)(Fig. 4), instead of a sentence having a low summarization rate (i.e. below the weight threshold and not viewable).

In regard to independent claims 21, 25, and 28, Vu et al teach a process for extracting the structure of a digital document (Page 4: Paragraph 0069: “the summarizer 14 parses the target document 16 into a hierarchical document tree”); a process for replacing the original contents of each element of the structure with a summary (Page 4: Paragraph 0074: “marks each feature with a display flag”) prepared based on historical data (Page 3: Paragraph 0038: i.e. based on training documents & Page 2: Paragraph 0026: “revision history”) related to a display form previously used for said digital document (Page 3: Paragraph 3: “The feature vectors of....of the target document 16.”), and generating data related to the new form (Page 4: Paragraph 0070: “The total weights generated...by the summary generator 14.”); and

a process for displaying said new display form on a display device (Page 5: Paragraph 0075: "Finally, the summary....in a linear order").

In regard to independent claims 22, 26, and 29, Vu et al teach a process for extracting the structure of a digital document (Page 4: Paragraph 0069: "the summarizer 14 parses the target document 16 into a hierarchical document tree");

a process for generating data (Page 4: Paragraph 0070: "The total weights generated...by the summary generator 14."), while maintaining said document structure (Page 5: Paragraph 0075: "in a linear order")(Fig. 4: "hierarchical document tree"), related to a display form (Page 3: Paragraph 0038: "identifies a genre and domain for the target document") wherein display areas to be allocated to elements (Page 4: Paragraph 0074: "display flag") that constitute said digital document are altered according to the importance level of the elements (Page 4: Paragraph 0074: "If a particular feature has weight....generation process that follows"), so all the document can be presented on one screen (Page 5: Paragraph 0075: "summary selector displays...a linear order"); and

a process for displaying said new display form on a display device (Page 5: Paragraph 0075: "summary selector displays...a linear order").

In regard to independent claims 9, 19, 23, 27, 30 and dependent claims 10, 20, and 24, Vu et al teach a process for obtaining a target sentence to be summarized (Page 4: Paragraph 0069: "section layer 32, paragraph layer 34, a phrase layer 36");

a process for obtaining historical data related to a summary for said target sentence from a summarization history database (Page 2: Paragraphs 0019-0020)(Fig. 2: 19) in which historical data are stored related to a previous summarization of a predetermined sentence (Page 3: Paragraph 0038: “The context miner....from the training data”); and

determining which parameters are required for the preparation of said summary based on said historical data (Page 4: Paragraph 0069), and preparing said summary of said target sentence based on said parameters (Page 4: Paragraph 0074).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3, 8, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vu et al (US-2002/0078091 06/20/02).

In regard to dependent claims 3 and 11, Vu et al teach a history database (Page 2: Paragraphs 0019-0020)(Fig. 2: 19), wherein after said document has been displayed via the interface (Page 5: Paragraph 0075: “Finally, the summary....in a linear order”)(Fig. 1: 21), by using a predetermined display form for a predetermined period of time (Page 4: Paragraph 0074: i.e. while the user-supplied percentage remains unchanged), updating

said display form by said user (i.e. changing the user-supplied the percentage to determine a new weighting threshold).

Vu et al do not teach storing the display form as historical data in said history database; and wherein said layout engine determines said layout of said document based on said historical data from said database. It would have been obvious to one of ordinary skill in the art at the time of the invention for Vu et al to have store the historical data of the previous display of the document in the history database, because Vu et al teach collecting contextual data external to the document (Page 1: Paragraph 0009) as training documents to provide the benefit of identifying features of the target document that are likely to be important (Page 2: Paragraph 0020).

In regard to dependent claim 8, Vu et al teach maintaining the linear order of the target document (Fig. 4) in the new display form (Page 5: Paragraph 0075: “Finally, the summary....in a linear order”). Vu et al also teach based on the values of the feature weights (Page 4: Paragraph 0074), arranging a display area near the center of said display form for an element having high importance level (i.e. higher feature weight marked for inclusion in the completed summary) (Page 4: Paragraph 0074). Vu et al do not teach arranging a display area nearer the side for said display form for an element of low importance (i.e. lower feature weight marked for exclusion from the completed summary). It would have been obvious to one of ordinary skill in the art at the time of the invention for Vu et al to have moved features with feature weights less than the weight threshold (Page 4: Paragraph 0074), because Vu et al teach wherein features of

ilow importance "can be safely ignored" (Page 1: Paragraph 0006) and thus putting said features near the side would have been obvious to put lesser emphasis the features by placing them in the periphery of a users view.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

| | | |
|--------------|---------|---------------------|
| US-6,665,841 | 12-2003 | Mahoney et al. |
| US-5,708,825 | 01-1998 | Sotomayor, Bernardo |
| US-6,122,647 | 09-2000 | Horowitz et al. |
| US-6,493,663 | 12-2002 | Ueda, Yoshihiro |
| US-6,424,362 | 07-2002 | Bornstein et al. |

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam L Basehoar whose telephone number is (571)-272-4121. The examiner can normally be reached on M-F: 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Hong can be reached on (571) 272-4124. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ALB



STEPHEN HONG
SUPERVISORY PATENT EXAMINER